

CWICSmart script

Across international waters, an American colleague uses NASA's CWICSmart search tool to access the same data.

- Navigate to CWICSmart

```
https://api.echo.nasa.gov/cwic-smart
```

- Set your OSDD if not the one below
 1. Click on the 'Apply custom OSDD' link
 2. In the field labelled 'Open search descriptor document location:' fill in the following OSDD location

```
http://gcmd.gsfc.nasa.gov/KeywordSearch/default/openSearch.jsp?Portal=cwic&clientId=cwicsmart
```

- Click on 'Apply'
- Search for datasets
 1. Click on 'Search'
 2. Fill in the following fields to perform a MOD15A25 search of Borneo
 - a. Search terms: MOD15A25
 - b. Bounding box: 114,-4.33,119.04,1.84
 3. Click on 'Search'
 4. You will see 1 dataset result

We can search this MODIS dataset for data from as early as 2002

- Click on the 'search this resource' button in the 'MODIS/Terra Leaf Area Index/FPAR 8-Day L4 Global 1km SIN Grid V005' dataset
- Search for granules
 - Click on 'Search'
- View the first browse image
- Click on the collections link
- Search for datasets
 1. Click on 'Search'
 2. Fill in the following fields to perform a LANDSAT_TM search of Borneo
 - a. Search terms: LANDSAT_TM
 - b. Bounding box: 114,-4.33,119.04,1.84
 3. Click on 'Search'
 4. You will see 1 dataset result
 5. Click on the 'search this resource' button in the 'Landsat Thematic Mapper Imagery' dataset

We can search this LANDSAT dataset for data from as early as 1982

- Search for granules
 1. Click on 'Search'
- Click on the first browse image
- Click on the CWICSmart banner
- Set your OSDD
 1. Click on the 'Apply custom OSDD' link
 2. In the field labelled 'Open search descriptor document location:' fill in the following OSDD location

```
http://geo.spacebel.be/opensearch/description.xml
```

3. Click on 'Apply'
- Search for datasets
 1. Click on 'Search'
 2. Fill in the following fields to perform a SPOT search of Borneo
 - a. query: theia
 - b. bbox: 114,-4.33,119.04,1.84
 3. Click on 'Search'
 4. You will see 4 dataset results
 5. Click on the 'search this resource' button in the 'SPOT4 (SPOT Take5)' dataset

We can search this SPOT dataset for data from 2013 onwards

- Search for granules
 1. ⚠ Remove 'theia' query parameter
 2. ❓ There are two bounding box query parameters
 3. Click on 'Search'
- Click on the first browse image

⚠ Obtain Sentinel ESA credentials from <https://scihub.esa.int/dhus/> you will need these credentials to do a granule search

- Navigate to CWICSmart

```
https://api.echo.nasa.gov/cwic-smart
```

The results of these studies into Borneo deforestation can be given to policymakers who can make decisions.

- Set your OSDD
 1. Click on the 'Apply custom OSDD' link
 2. In the field labelled 'Open search descriptor document location:' fill in the following OSDD location

```
http://geo.spacebel.be/opensearch/description.xml
```

3. Click on 'Apply'

We have demonstrated that scientists are able to use independently developed search tools to access satellite data at many CEOS agencies.

- Search for datasets
 1. Click on 'Search'
 2. Fill in the following fields to perform a Sentinel-1 search of Borneo
 - a. query: 'Sentinel-1'
 - b. bbox: '114,-4.33,119.04,1.84'
 3. Click on 'Search'
 4. You will see 4 dataset results
 5. Click on the 'search this resource' button in the 'SENTINEL-1 Level 1 Ground Range Detected (GRD)' dataset

In this demonstration, we showed scientists accessing satellite data from NASA, USGS, CNES, ESA, and the EC using two tools.

- Search for granules
 1. Fill in the following fields to perform a 'SENTINEL-1 Level 1 Ground Range Detected (GRD)' of Borneo
 - a. username: <the user name of your Sentinel ESA account acquired in step 1
 - b. password: <the password of your Sentinel ESA account acquired in step 1
 - c. The other necessary fields should be pre-populated
 2. Click on 'Search'

The ability to search and access data from multiple CEOS agencies and perform inter-comparisons with the satellite data are valuable capabilities for scientists studying environmental problems.

- View browse
 1. ⚠ Prior to a demonstration you should click on a browse link of one of the records. This will prompt you for your ESA credentials again and then display the browse. Once you have provided your credentials subsequent searches should show thumbnails inline.

The use of the WGISS interoperability standards for search and access makes this possible. These tools enable advisors to use satellite data in combination with other information to study environmental issues to benefit future generations.